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SUMMARY OF THE INVENTION

The present invention offers a means of extraction and estimation of parameters of individual constituting sinusoids present in a given signal alternative to standard Fourier transform or linear adaptive filtering as regards signal analysis, and alternative to phase-locked loops as regards signal synthesis while maintaining a structural simplicity and high speed of convergence both comparable with those of Fourier-based techniques. Unlike Fourier-based techniques, once the individual constituting components of a given signal are extracted, time variations in the characteristics of the components are registered and tracked.

It is thus an object of the present invention to provide means of extraction of a more or less specified desired sinusoidal component of a given signal, characteristics of which such as amplitude, phase and frequency may vary with time.

Accordingly, the present invention offers means of synthesization of a signal synchronous with a desired component of a given reference time-varying signal, thereby rendering it a